

GOITERS OF THE YOUNG.

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One of the most interesting phases of the study of the function of the thyroid gland is its relation to the uterus and sexual pelvic organs in the female.

The thyroid of the mother usually enlarges

and it is in such cases that occasionally marvelous results are obtained by feeding thyroid.

In the human embryo the ductless glands of the neck show very early. The thyroid gland develops from three buds, the greater



Fig. I. Case No. 21494. Cretin. Age 16—size of seven-year-old.

to some extent during the latter part of pregnancy, although excessive activity of the gland can occur with but little enlargement. It rarely occurs that women become pregnant during the period of an excess of secretion, hyperthyroidism, or during the opposite condition, myxedema or hypothyroidism.

Should the thyroid function be deficient in the infant at birth, the child fails to develop properly, either mentally or physically,

portion being formed from the median one, which is situated between the lobes of the tongue, and from which the isthmus and greater portion of the lateral lobes are developed.

The lower poles are formed from buds originating in the fourth branchial groove. It is by anomalies of development that the median bud remains in the tongue as a lingual thyroid, or that accessory thyroids are formed

in these areas of development, and occasionally one or possibly two portions fail to unite with the others as they should at the seventh week of the embryo. Such a condition is common to the vertebrates, but unusual in the human.

The thyroid gland varies in size and weight in the healthy adult from one to one and a half ounces. It is inclosed in a capsule which divides behind into three layers, one of which

ply the thyroid bears out the present knowledge of the importance of this organ. The loss of both common carotids would still leave the inferior thyroids, while in many cases a fifth artery exists in the center below, arising from the arch of the aorta or from one of the common carotids.

At present much attention is being paid to the para-thyroids in studying their function, and, in the surgical operations upon the



Fig II. Case No. 23184. Colloid Adenoma. Age 19.

passes behind the esophagus, one between the esophagus and trachea and one encloses the posterior portion of the gland, fixing the structure to the trachea and the thyroid and cricoid cartilages.

This capsule enclosing so many important structures as well as the gland, is the cause of many of the symptoms of goiter other than those of over-secretion.

In the wonderful provision for a blood sup-

ply, it is imperative to see that they are not injured. It would appear from the irregularity of their location, their number and their blood supply, that nature had been extremely careless with these glands, or that we are mistaken in their importance.

The cretin may have no apparent thyroid, or may have a very large goiter. Operations upon these tumors are indicated to remove a nuisance, and at times it becomes necessary

to relieve dyspnea, but operation should not be expected to otherwise improve the condition of cretinism.

If the thyroid is enlarged in these cases it is usually of the fetal type; no lumen in the cells, no secretion, and plenty of connective tissue, or, with more cells, less connective tissue, and cystic degeneration of the whole. In normal thyroid the cells have matured and

duration. Should flattening of the cells occur in those of the colloid type, there is a tendency toward myxedema.

Encapsulated adenoma may be seen, or rounded tumors occupying a part or the whole of the lobe. Often, by growth within the true capsule of the gland, these tumors develop to a great size and undergo partial or complete cystic degeneration. Such tumors are best enucleated.



Fig. III. Case No. 24394. Exophthalmic goiter without eye symptoms. Age 18.

lined the vesicles, and opened a central space between them for secretion.

Simple or colloid goiter, or diffused adenoma is that condition in which the central space between the cells is greatly enlarged and retains a stainable colloid. If the colloid is granular with recent degeneration of cells, we may have symptoms of hyperthyroidism, the type of exophthalmic goiter which develops in those with goiter of some years'

The usual exophthalmic goiter shows a wonderful hypertrophy of cells with less colloid, at least in the active areas. Excluding infection and malignancy all goiters come under one of these types.

The simple enlargement of the gland in girls at puberty is a fairly normal condition and indicates that menstruation is becoming established.

In some cases there may be signs of hyper-

secretion at irregular intervals, occasionally amounting to mild exophthalmic goiter without proptosis. These cases seldom require any active medication or special treatment other than hygienic, as most of them recover within a period of months or a few years at most.

It is but rarely that colloid or diffuse adenomatous goiter in the young become so resistant to treatment, or so annoying to pressure symptoms that extirpation or resection of a portion of the gland is necessary, although it may be advisable. At times, however, during this period, an encapsulated adenoma may develop into a rounded tumor occupying some part of the gland. Such tumors are best removed.

Most physicians have a remedy for the cure of such goiters, and these remedies run from

amber beads up, externally, with some form of iodine internally. Others lay great stress upon a special diet. We prefer some form of iodine internally with intermittent external irritation over the gland.

Exophthalmic goiter in the young is a most serious condition. It may appear at a very early age; we have had a marked case beginning at the age of five years, and operated upon at seven, with great benefit.

The usual age in which hyperthyroidism develops in the young, is between sixteen and nineteen years. In such cases some form of medical treatment should be instituted to improve the condition, but should not be persisted in when ineffectual, until surgical treatment must assume the burden of a mortality which, from the delay and consequent terminal degenerations, should be in part medical.